INDEX.

Absorption of obscure heat, 240.
Abyssinian expedition, 227.
Action of electric current on the Mimosa pudica, 146.
Action of green light on plants, 240.
Active wheel cilia, 290.
Africa, eastern coast, 223.
Agaricus, 20.
Agricultural implements found in France, 236.
Agricultural products of Abyssinia, 233.
Air columns, 46.
Air-vesicles of Bladderworts, utricularia, 207.
Alchemilla alpina, 25.
Aluminium bronze, 152.
Amiens gravel, 295.
Ammodytes tobianus, 252.
Anatomy of thysanura, 239.
Ancient ornaments, 310.
Andromeda, 379.
Anemometer, new, 392.
Anglo-Saxon remains, 459.
Animal life in Himalayas, 132.
Animal oxidation, 88.
Annelids, structure of, 266, 365.
Annaloids, 296.
Antiquarian relic at Andover, 310.
Ant's eggs, 322.
Apennines, lunar, 274.
Aphrodita aculeata, 272.
Arbroath Abbey, 26.
Archæology. — Archæological associated bodies, 148; tumulus at Thruxton, 149; Roman pottery at Thruxton, 149; excavations at Wroxeter, 149; Roman city of Uriconium, 149; Wigmore Abbey, 150; grave-mounds of Derbyshire, 180, 254, 342, 459; Celtic period, 181; barrows, 182; sepulchral urns, 185, 344; stone cists, 186; chambered tumuli, 187; Blackmore Museum, 233; Roman lead mining, Roman work, 234; Stonehenge, 235; stones of Stenness, 235; Roman town in France, 233; agricultural implements, 236; sepulchral interments, 236; sepulchral deposits of Roman period, 236; flint implements, 254; arrow and spear-heads and dagger-blades, 254; flint knives, 256; stone implements, 256; jet articles, ancient, 257; bone implements, 258; bronze implement, 258; skeletons, 258; bronze daggers, 259; pottery, Celtic, 260, 348; cinerary urns, 260; food vessels, 260; drinking cups, 260; incense cups, 260; sepulchral urn, 261; Roman station at Vindomis, 310; Yorkshire barrows, 310; skeletons in Yorkshire, 310; bronze ornaments, 310; armlets and necklaces, 311; Roman road, 311; Roman antiquities, 311; Cheshire archæological produce, 312; flint implements, 312; Roman coins, 312; Saxon beads, 312; excavations at Wroxeter, 312; Birmingham of Roman Britain, 312; intaglio, 312; Roman coins, 313; coins of Tetricus, 313; Roman roads, 342; pigs of lead, 342; armour in tumuli, 344; ornaments in bronze, iron, and silver, 345; iron knives, 345; coins in Derbyshire, 347; beads, 348; Roman pottery, 348; Roman cemeteries, 349; Roman Salopian ware, 350.
Arctic fox, 364.
Ariadæus, second great cleft, 96.
Arid countries prevent rain, 337.
Armlets, and necklaces, 311.
Armour interred with skeletons in tumuli, 344.
Arrow and spear-heads, and dagger-blades, 254, 460.
Arthropodes, 270.
Asplanchna, 287.
Astronomy.—Notes on star streams, 1; milky way, 1; section of galactic nebula, 4; stream formations, 8; clustering in the milky way, 10; rolls of stars, 11; streams of light, 12; stippling, 12; doubts and facts concerning Linné, 36; new crater, 36; shallow crater, 37; observations on Linné, 39; Wolf on Linné, 40; Mare Vaporum and the lunar clefts, 52; cracks or rills, 52; supposition of life in Moon negatived, 55; absence of noticeable atmosphere in the Moon, 55; meteoric appearances, 80; Mars during the late opposition, 81: colours of Mars, 82; undiscovered satellite, 85; lunar clefts,

95; Mare Vaporum, 95; Ariadæus, 96; Hyginus, 98; Triesnecker, 102; Jupiter's satellites, 103; occultations, 104; Jupiter without satellites, 144; outline lunar map, 155; constitution of Sun and stars, 159; 92nd planet, 159; November shooting stars, 190; motion of rotation, 192; radiant point, 192; meteoric orbit, 196; meteoric streams, 197; Gruithuisen's city in the Moon, 214; clefts in the Moon, 215; rampart-work, 216; selenites, 217; Rhæticus, 216; hills in the Moon, 219; Jupiter's satellites, 222; occultations, 223; lunar eclipse, 223; colour of the Moon, 225: colour seen during the lunar eclipse, 226; luminous meteors, 239; lunar Eratosthenes and Copernicus, 273; Apennines, 274; zone of Eratosthenes' shadows in terrestrial sunshine, 275; lunar penumbra, 275; lava currents, 279; transit of Jupiter's satellites, 280; occultations, 280; theories of Copernicus and Ptolemy, 317; colour question and lunar eclipse, 319; two new planets, 320; coming star showers, 320; lunar details, 370; Copernicus, 370; craters in the Moon, 370; Gay Lussac, 370; light streaks, 371; crater chains, 372; Eratosthenes, 374; Sinus Æstuum, 374; double stars, 375; Lyra, 376; Cygni, 376; Andromeda, 379; clusters and nebulæ, 380; Jupiter's satellites, 381; occultations, 381; day view of Venus, 399; new planet, 479.

Atherinæ, 251.

Atmosphere in the moon, absence of, 55.

Atmospheric agency among the Cheddar rocks, 34.

Autograph of Sir Isaac Newton, 352.

Auvergne, its thermo-mineral springs, climate, and scenery, 156.

Axolotls, fecundity of, 480.

Barbets and their distribution, 241.

Badger, 202.

Baridia, 119.

Barbatula, 243.

Barks of various plants, value of, 49.

Barrows in Derbyshire, 180, 257, 342.

Bassunt bari, Indian bird, 242.

Beads, old Roman, 348.

Bee-eaters, 245.

Bell-bird, 241.

Bell rock lighthouse, 27.

Bichromate of potash and albumen, polariscope object, 240.

Bilberry and mountain or cloud berry, 25.

Belona vulgaris, 253.

Birmingham of Roman Britain, 312.

Blackmore Museum in Salisbury, 233.

Bladderworts, air vesicles of, 207.

Blasting power, new, 315.

Blood corpuscles, function of, 87.

Blood discs, 199.

Body and appendages of annelids, 267.

Bologna phosphorus, 137.

Bone implements, 258.

Botany.—Fungi on the plains of India, 18; Polyporus lucidus, 18; Schezophyllum commune, 18; Irpex flavus, 18; Dædalea sanguinea, 18; Agaricus, 18; Dum-dum collection of fungi, 18; Agaricus malleus, 20; Agaricus alliciens, 20; Agaricus holophlebius, 20; Podaxon carcenomalis, 21; Phallus truncatus, 21; ferns of Glen Clova, 23; oak fern, 23; beech ferns, 23; brittle bladder fern, 23; tooth bladder ferns, 24; Wilson's film fern, 24; holly ferns 24; hard fern, 24; Woodsia ilvensis, 24; Lastrea spinulosa, 24; Polystichum lonchitis, 24; Bilberry and mountain or cloud-berry, 25; Alchemilla alpina, 25; hart's tongue ferns, 27; sea spleenwort, 27; marsh fern, 28; green spleenwort, 29; pottery tree of Para, 50; Moquilea utilis, 50; bark of pottery tree, 50; silex in bark, 51; Handybook to collection of fungi and lichen, 79; forest trees of Himalayas, 131; orchids, 131; Magnolias, 132; Rhododendron, 132; Magnolia excelsa, 132; Rhododendron argenteum, 132; Magnolia Campbelli, 132; Gentiana coronata, 132; Foxglove, 132; Viola repens, 132; Bladderworts, 207; Utricularia vulgaris, 207; air vesicles of bladderworts, 207; utricles, 207; leaf-bearing branches, 208; gaseous evolutions in aquatic plants, 213; Hottonia, 212; Ranunculus aquatilis, 212; subjecting fruits to electricity, 399: haricot beans electrified, 399; hybrid cotton, 399; electro-capillary currents in plants, 399.

Brachion mastax, 292.

Brachions, 284.

Bradycinctus, 128.

Brama Raii, 253.

Breadth of meteoric stream, 197.

Breech-loading gun, 74.

Brimstone moth, 328.

British Association, 237.

Bronze implements, 258.

Bronze and iron ornaments, 345.

Bronze ornaments, 310.

Brown bear, 202.
Brown hair streak, 330.
Brown-tail moth, 328.
Brute Chronicle, extract, 170.
Bucconidæ, 241.
Buff tiger moth, 328.
Burying beetles' eggs, 323.
Bythocythere, 124.

Cabinet of earth unlocked, 386.
Cæn stone hardening, 238.
Calcar, or spur of rotifer, 283.
Caloric engines, 473.
Candona, 118.
Canidæ family, characteristics of, 355.
Cannon, new, 392.
Cantharus griseus, 250.
Capitonidæ, 243.
Caranx trachurus, 250.
Cathedral rocks of Cheddar, 31.
Caves and coves of Forfarshire, 26.
Cave bear, 202.
Cave hyæna, 202.
Cave lion, 202.
Celtic period, 181.
Cemeteries of the Romano-British periods, 349.
Chambered tumuli, 187.
Change in position of Jupiter's satellites, 145.
Changes in appearance and position of milky way, 1.
Characteristics of rotifers, 281.
Cheddar cliffs, 30.
Chemical constituents of eggs, 324.
Chemistry.—Economic production of formic ether on large scale, 74; manufacture of steel, 74; galvanic batteries, 75; plating and gilding, 75; magnetism and diamagnetism of gases and vapours, 78; medicines through the nose, 79; functions of the blood, 86; colouring matter of blood corpuscles, 87; animal oxidation, 88; identification of blood stains, 89; poisonous action of carbonic acid gas, 89; mineralized blood, 89; test in case of suspected poisoning, 90; oxidation, 91; nutrient fluid, 92; muscular currents of electricity, 94; Bologna phosphorus, 137; prismatic colours, 138; chlorophane, or calcic fluoride, 139; luminous action of sulphide, 140; phosphorescent compounds, 140; application of superheated steam, 150; renovation of polished surface on glass, 151; application of electro-magnetism to the manufacture of iron, 151; application of sulphuret of carbon to the extraction of oleaginous matters on the larger scale, 152; utilization of aluminium bronze, 152; preservation of liquors containing alcohol, 153; new application of electricity, 153; latent image, 153; substitution of electric current for a fulminate with fire-arms, 237; absorption of obscure heat, 240; bichromate of potash and albumen, 240; novel action of light, 308; iodide of silver, 309; artificial meerschaum, 313; starch, 314; blasting powder, 315; preservative compound, 316; explosive compound, 316; photography, new application, 317; colour of water, 319; sulphuric acid formed by a mollusk, 319; micro-crystals of alkaloids, 320; hydraulic cement, 391; printing on glass, 391; galvanic battery, 393; gelatine, new application, 393; new photometer, 393; test for ozone, 399; free sulphuric acid in molluscs, 399; electricity and vegetation, 399; electro-capillary currents in plants, 400; sulphuric acid, 474.
Chladni's figures, 47.
Chlorophane or calcic fluoride, 139.
Ciliary organs of rotifers, 289.
Cinerary urns, 260.
Circles of stones at Stonehenge, 235.
Clefts, lunar, 52.
Clefts in the moon, 215.
Clouds, of what they consist, 333.
Clupeidæ, 110, 250.
Clupea pilchardus, 253.
Clusterings in the milky way, 10.
Cluster and nebulæ, 380.
Coal-fields of Brazil, 80.
Coccus eggs, 327.
Coccus Persicæ, 326.
Cock-roach's eggs, 322.
Cod-fish tribe, 250.
Coinage of Japan, 14.
Coinage remodelled by Sir Isaac Newton, 351.
Coinage standard, 297.
Coins found in Derbyshire, 347.
Coins, Roman, 313.
Coleopterous insects eggs, 322.
Colour of Mars, 82.
Colour of the moon, 225.
Colours of the stars, 315.
Colour of water, 319.
Colour question and lunar eclipse, Sept. 13, 319.
Colours seen during the lunar eclipse, Sept. 13, with remarks on the preceding communication, 226.
Coloured utricles, 210.
Colouring matter of blood corpuscles, 87.
Comber fish, 250.

Combination of horse and steam power for locomotives on ordinary roads, 151.
Comet III., 1867, 479.
Component parts of Para pottery bark, 51.
Conchoecia, 128.
Conchoeciadæ, 115, 128.
Condensation of vapour, 333.
Configuration of galactic nebula, 6.
Conochilus, 284.
Constellation Lyra, 376.
Constellation-seasons, 78.
Constitution of sun and stars, 159.
Contour and elevation of a country affecting the quantity of rain, 336.
Copernican theory, 318.
Copernicus, 370.
Copernicus, lunar, 274.
Cosmical origin of shooting stars, 191.
Cosmopolites of India, 18.
Court of Exchequer, 297.
Craters in the moon, 370.
Crawling rotifers, 284.
Cremation, 184, 344.
Cross-fox fur, 358.
Crustacea, 113.
Cry of the barbet, 242.
Crustacean fauna of the English lakes, 417.
Cuirassiers rotifers, 288.
Curassones, 245.
Curiosities of sound, 42.
Curious conformation of cliff architecture, 32.
Currency system of Japan, 17.
Cuticle of the fish, 248.
Cygni, 376.
Cylindroleberis, 127.
Cypridæ, 114,
Cypridinidæ, 115, 127.
Cyridopsis, 117.
Cythere, 120.
Cytherella, 129.
Cytherellidæ, 116, 129.
Cytheridea, 114, 120, 122.
Cytherideis, 125.
Cytheropsis, 122.
Cytheropteron, 124.
Cytherura, 124.

Dagger-blades in Derbyshire, 254.
Dark tracts near Sinus Æstuum, 375.
Darwinian theory of the transmutation of species, 384.
Davy's Lamp, 473.
Day view of Venus with small telescope, 399.
Debra Tabor, Abyssinia, 231.
Derbyshire grave-mounds, 180, 254, 342, 459.
Difference in the quality of the flesh of a sea and fresh-water salmon, 109.
Digestive apparatus of rotifers, 294.
Digestive organs of annelids, 271.
Dingy shears moth, 328,
Discoveries of antiquities in Great Britain, 201.
Double stars, 375.
Doubts and facts concerning Linné, 36.
Drawings of Mars, as seen through a telescope, 81.
Dress in olden times, 169.
Drinking cups, 260.
Dujardin's free swimmers, 287.
Dum-dum collection of fungi, 18.

Earth-borer, 323.
Eccentricity of the earth's orbit, 62.
Echoes, 44.
Economic production of formic ether on the large scale, 74.
Effect of temperature on metallic bodies, 300.
Efforts of human agency in modifying the earth's surface, 66.
Egg membrane or shell, 325.
Eggs of epiornis, 240.
Eggs of insects, 32.
Eggs of rotifers, 283.
Egyptian land surveying, 480.
Electric condition of different parts of the earth, 154.
Electric current, action on sensitive plant, 146.
Electrical countries, and their action on the weather, 134, 411.
Electricity and vegetation, 399.
Electricity, application of, to sensitive plants, 147.
Electricity, new application of, 153.
Electro-capillary current in plants, 400.
Electro-magnetism applied to manufacture of iron, 151.
Emerald volute moth, 329.
Entomology.—Insects' eggs, their structure, variety, and beauty, 321; Lepidopterous, 321; care of insects in depositing eggs, 321; cockroaches' eggs, 322; ant eggs, 322; queen bees' eggs, 322; silkworms' eggs, 322; goat moths' eggs, 322; Coleopterous insects' eggs, 322; burying beetles' eggs, 322; Scarabœida, 323; earth borer, 323; formation of eggs, chemical constituent of eggs, 324; egg membrane shell, 325; Coccus persicæ, 326; Phryganea eggs, 326; cœcus eggs, 327; ova of crustaceans, 327; mottle umber moth, 327; magpie moths, 327: thorn moth, 327; strawbelle moth, 328;

dingy shears moth, 328; puss moth eggs, 328; swallow prominent moth, 328; brimstone moth, 328; lappet moth, 328; buff tiger moth, 328; brown-tail moth, 328; emerald volute, 328; glory of Kent moth, 329; silkworm moth, 329; silver lines moth, 329; meadow brown butterfly, 329; white butterfly, 330; brown hair streak butterfly, 330; termites, or white ants in India, 381; winged ants, 382; white ant destroyers, 382.
Entomostraca, 110.
Epiornis, great bird of Madagascar, 240.
Eratosthenes, lunar, 273.
Eratosthenes, region of, 374.
Ermine, 202.
Esox lucius, 253.
Eulogium historidrum, 169, 171.
Euplectella speciosa, 161.
Excavations at Wroxeter, 149, 312.
Experiments with the rigid spectroscope, 158.
Explosive compound, 316.
Eyes of rotifers, 283.

Falcons, 245.
Fall of Aerolites in Algiers, 160.
Ferns of Forfar, 27.
Ferns of Glen Clova, 22.
Finhauen fort, 28.
Fish scales, structure, etc., 246.
Five wells tumulus, 188.
Fixed rotifers, 284.
Flint cores and arrow heads, 203.
Flint flakes, 202.
Flint implements, 312.
Flint implements in Derbyshire, 254.
Flint knives, or scrapers, 256.
Flint Jack, 254.
Floscularians, 284.
Food of the salmon, 104.
Food vessels, 260.
Foraminifera, 112.
Forces called into action for a downfall of rain, 331.
Forests, great generators of rain, 337.
Forests of the Himalayas, 132.
Forgeries, Newton, 400.
Formation of eggs, 323.
Formic ether, production of, 74.
Foscules, 293.
Fossilized carapaces, 110.
Fox, fossil, 202.
Foxes, fur-bearing, 354.
Free sulphuric acid in molluska, 399.
Frogs and toads, 108.
Functions of the blood, 86.
Fungi of the plains of India, 18.
Furcularians, rotifers, 288.
Fur of grey fox, 360.
Fur of kitt fox, 360.

Gadoid fish, 247.
Gadus fish, 253.
Galileo on the milky way, 3.
Galvanic batteries, 75.
Galvanic battery, simplification of, 393.
Gaseous evolutions in aquatic plants, 213.
Gauge for steam boilers, 394.
Gelatine, new application of, 393.
Geographical distribution of annelids, 369.
Geological Society, 395.
Geology.—Geology of Glen Clova granite, 23; Craig Ought rocks, 23; felstone porphyry and syenite, 23; quartz, 23; crystals of hornblende, 23; magnetic iron pyrites, 24; caves of Forfar, 26; vitrified forts, 28; slate quarries, 29; redstones, 29; Cheddar cliffs, 30; atmospheric agency among the Cheddar rocks, 34; stratigraphical structure of Cheddar cliffs, 34; plane of marine denudation, 30; permian conglomerate, 30; wind cliff, 31; cathedral rock, 31; curious conformation of cliff architecture, 31; screes at Cheddar, 32; Cheddar caves, 33; water-mark in Cheddar caves, 33; clean removal of rock, the origin of Cheddar cliffs, 34; sea-marks in Cheddar ravine, 36; geological eras, 63; coal-fields of Brazil, 80; volcanic eruptions at Santorin, 142; basalt, quartz-pebbles, argillaceous slate, jasper, schist, sandstone, 256; mining districts of Derbyshire, 342; cabinet of earth unlocked, 386; Introductory Text-book of Geology, 390; Amiens gravel, 395; Geological Society, 395, 478; chalk, 396; quaternary deposits, 396.
Geology, Introductory Text-book, 390.
Germinal matter and the contact theory, 388.
Gilding and plating, 75.
Gizzards of rotifers, 291.
Glen Clova, geology of, 22.
Globules with pedicels, 209.
Glory of Kent moth, 329.
Glycerians, 272.
Goat moth's eggs, 322.
Graduate logic-chopping, 385.
Grave-mounds of Derbyshire, and their contents, 180, 254, 342, 459.
Great cleft, lunar, 95.
Grey fox, 355.
Grun cave, 27.
Gruithuisen's city in the moon,

Jupiter's satellites, occultations, 214.
Gruithuisen's discoveries, 373.
Gulf-stream affecting rain in England, 338.
Guy Lussac, lunar crater, 370.
Gymnobucco, 243.

Habits of trachyphoni, 243.
Handbook of the history of philosophy, 386.
Hard ferns, 24.
Hardwick's drawings of fungi, 18.
Henry VIII., laws about dress, 178.
Herrings, 106.
Herring and pilchard, 248.
Herschel on the milky way, 4.
Hesions, 269.
Hills in the moon, 219.
Himalayas, April climb, 131.
Hoards of Roman coins, 313.
Horn-bills, 245.
Holly ferns, 24.
Honey guides, 245.
Horological machines, improvement in, 76.
Horse and bison, 206.
Hudson's Bay Company's sale of furs, 356.
Humming birds, 245.
Hybrid cotton, 399.
Hydraulic cement, new, 391.
Hyginus, 99.
Hyænas, 204.

Identification of blood stains, new and valuable means, 89.
Igneous rocks in Scotland, 238.
Ilyobates, 122.
Imperial mint, new, for Japan, 17.
Incense cups, 260.
Indian ants, 381.
Indian fungi, 18.
Influence of the seasons on rain, 337.
Inhumation, 181.
Insects' eggs, their structure, variety, and beauty, 321.
Intaglio found at Wroxeter, 312.
Intellectual Observer and "The Student," 401.
Intensity of sound, 43.
Intercommunication with the Japanese, 13.
Interment of the Romano-British period, 344.
Intestinal worms, 106.
Iodide of silver, coloured, 309.
Irish elk, 202.
Iron knives, 345.
Irritability of plants, 146.
Isaac Newton, 350.
Itacune of Japan, 15.
Itjib of Japan, 16.
Itzebus of Japan, 15.

Japan and its currency, 13.
Jet articles, ancient, 257.
Jupiter's satellites, 103, 222, 280.
Jupiter without satellites, 144.

Kaimeni Islands, 142.
Kent's Hole excavations, 202.
Kolangs of Japan, 15.
Koodon-felassy, Abyssinia, 231.

Labridæ, 251.
Labrus balanus, 252.
Lacinularia, 284.
Lappet moth, 328.
Largest blood discs known.—Singular capture of a Canadian reptile, Menobranchus lateralis, 199.
Latent image, 153.
Lava-currents, evident indication of, 279.
Laws in Edward IV.'s reign respecting dress, 176.
Laws which determine the relative disposition of land and water, 63.
Lead discovery, traced to funeral pyres of our forefathers, 184.
Lead mining work, Roman, 234.
Leaf-bearing branches, 208.
Limnocythere, 121.
Lepidopterous insects' eggs, 321.
Leporides, 80.
Light, novel action of, 308.
Light streaks relating to Copernicus, 371.
Light and vegetation, 399.
Linné, observations on, 39.
Links of Forth, 26.
Limnias, 285.
Literary Notices, 78, 155, 317, 384, 476.
Livingstone's fate, 396.
Localities in which rotifers are found, 295.
Loch Brandy, 25.
Lœmodon, 243.
Loxoconcha, 123.
Luminous action of phosphori, 140.
Luminous meteors, 239.
Lunar Apennines, 274.
Lunar cracks or rills, 52.
Lunar craters, 370.
Lunar clefts, Mare Vaporum, Jupiter's satellites, occultations, 95.
Lunar details, double stars, clusters and nebulæ, transits of satellites, occultations, 370.
Lunar eclipse of September 13th, 223.
Lunar Eratosthenes and Copernicus, Jupiter's satellites, occultations, 273.
Lunar penumbra, 275.

Magnetism and diamagnetism of gases and vapours, 78.
Magnetism and the meteorites, 315.
Magnolias and rhododendrons of the Himalayas, 132.
Magpie moth, 327.
Mammalia, pre-historic, 403.
Mammoth, remains of, 201.
Man, and the pleistocene mammals of Great Britain, 201.
Manufacture of starch, 314.
Mare Vaporum and the lunar clefts, occultations, 52.
Mars during the late opposition, 81.
Mason's cave, 27.
Mastax of rotifiers, 291.
Master of the Mint, Sir Isaac Newton, 351.
May islands, displacement of, 143.
Meadow brown butterfly, 329.
Measures, standard, 297.
Mechanical science, 238.
Medicines through the nose, 79.
Meerschaum, artificial, 313.
Megalœma Asiatica, 243.
Megalorhynchus, 243.
Megrim, or scald-fish, 247.
Melicertians, 284.
Mendip hills, 30.
Menobranchus lateralis, 199.
Meteoric appearances on June 11, 80.
Meteoric orbit, 196.
Meteors in November, 190.
Meteorites and magnetism, 315.
Meteorological observations at Kew observatory, 68, 302.
Metopidia acuminata, 295.
Mexican hydrology, 134.
Mexican storms, 134.
Micro-crystals of alkaloids, 320.
Microscope for waistcoat pocket, 320.
Microscope, its history, construction, and application, 388.
Microscopy, micro-crystals of alkaloid, 320; waistcoat-pocket microscope, 320; microscope, its history, construction, and application, 388; Ross's new four-inch objective, 398; cheap compressorium slide-cells, 398; microscopic ferment, 479.
Milky way, 1.
Mineralized blood, 89.
Mining districts of Derbyshire, antiquities found, 342.
Moisture, amount of, in the atmosphere, 335.
Mollusks, free sulphuric acid in, 399.
Motion of rotation, 192.
Motmots, 245.
Mottle umber moth, 327.
Mudfish from New Zealand, 399.
Mullus surmuletus, 250, 252.
Muscular force maintained by combustion of carbonaceous elements, 109.
Muscular currents of electricity, 94.
Muscular system of annelids, 271.

Natural History (including Zoology).—Native countries of different birds, 245; handy book to the collection and preparation of fresh water and marine algæ, diatoms, desmids, etc., 79; leporides, 80; food of the salmon, 104; aquatic lice, 104; voracity of the salmon, 106; herrings, 106; difference of quality in the flesh of a sea and fresh-water salmon, 109; intestinal worms, 106; river salmon, 107; frogs and toads, 108; Clupeidæ, 110; synopsis of the recent British Ostracoda, 110; entomostraca, 110; fossiled carapaces, 110; Rhizopoda, 111; fossiliferous strata, 111; foraminifera, 111; crustacea, 113; Cypridæ, 114; Cytheridæ, 114; Cypridinidæ, 115, 127; Conchoeciadæ, 115; Polycopidæ, 116, 129; Cytherillidæ, 116, 129: Cypridæ, 116; Cyridopsis, 117; Paracypris, 118; Notodromas, 118; Candona, 118; Pontocypris, 118; Bairdia, 119; Macrocypris, 119; Cytheridæ, 120; Cythere, 120; Limnocythere, 121; Cytherideæ, 122; Cytheropsis, 122; Ilyobates, 122; Loxoconcha, 123; Xestoleberis, 123; Cytherura, 124; Cytheropteron, 124; Bythocythere, 124; Pseudocythere, 125; Cytheridis, 125; Scerochilus, 166; Paradoxostoma, 126; Philomedes, 127; Cylindroleberis, 127; Bradycinetus, 128; Conchoecia, 128; Polycope, 129; Cytherella, 129; animal life in Himalayas, 132; birds of the Himalayas, 133; Venus' flower basket, Euplectella speciosa, 161; sponges, 161; network of skeleton of Euplectella speciosa, 163; spicules, 164; Menobranchus lateralis, 199; mammoth, 201; mammals, remains of, found, 201; Salsburg mammalia, 201; sabre-toothed animal, 201: teeth of mammalia, 201; cave lion, cave hyæna, wolf-fox, ermine, badger, cave bear, brown bear, otter, urus, Irish elk, stag-reindeer, wild boar, tailless hare, water rat, hippopotamus major, rhinoceros tichorhinus, Arvicola pratensis, Arvicola agrestis, hare, and rabbit, 202; horse and bison, 206; Epiornis, great bird of Madagascar, 240; poisonous fish, 240; barbets and their distribution, 241; bell-bird,

241; zygodactyle birds, 241; Bucconidæ, 241; blue-cheeked barbet, 241; blue-throated barbet, 242; cry of the barbet, 242; Bassunt Bari, 242; "old woman of spring," 242; nest of barbet, 242; African barbets, 243; trachyphonic barbet, 243; habits of trachyform, 243; American barbets, 244; native country of different birds, 245; Pselopogon, 243; Megatorhynchus, 243; Megatœma Asiatica, 243; Barbatula, 243; gymnobucco, 243; Lamodon, 243; Capitonidæ, 243; Pogonorynchi, 243; Barbatulæ, 243; Trachyphonus margaritatus, 244; humming-birds, 245; toucans, motmots, puff birds, Curassows tinamous, 245; bee-eaters, hornbills, rollers, sugar birds, honey guides, orioles, 245; falcons, owls, swifts, swallows, and thrushes, 245; parrots and trogons, 245; structure and manner of growth of scales of fish, 246; reptiles scales, 246; gadoid fish, 247; megrim, or scale fish, 247; herring and pilchard, 248; cuticle of the fish, 248; sea bream, Pagellus, Centrodontus, 249; perch scales, 249; sole scales, 249; Sciœnæ, 249; Perca fluviatilis, 249; Solea vulgaris, 249; comber fish, 250; Serranus cabrilla, 250; Mullus surmuletus, 239; Trigla piper, 250; Rhombus hirtus, 250; shad, 250; Clupeidæ, 250; Cantharus griseus, 250; Caranx trachurus, 250; Scomber esiox, 250; scad, 250; Labridæ, 251; Atherine, 251; Atherina presbuta, 251; scales of lateral line, 251; Trigla cuculus, 252; Ammodytes Tobianus, 252; Labrus balanus, 252; Mullus surmuletus, 252; Pagellus centrodontus, 252; Clupea pilchardus, 253; Esox lucius, 253; Belona vulgaris, 253; Salmo trutta, 253; Brama Raii, 253; gadus fish, 253; structure of annelids, with a criticism on Quatrefages, 266; regions of the body and appendages, 267; feet of annelids, 269; hesions, 269; teguments and muscular apparatus, 269; Arthropodes, 270; muscular system, 271; digestive organs, 271; perivisceral circulatory system of annelids, 272; Aphroditians, 272; Glycerians, 272; Terebella, 272; Aphrodita aculeata, 272; rotifers, 281; ovovivaparous generation, 282; eggs of rotifers, 283; eyes of rotifers, 283; calcar or spur of rotifer, 283; Systolides, 284; fixed rotifers, 284; swimming rotifers, crawling rotifers, 284; Floscularians, 284; Melicertians, 284; Brachions, 284; Philodines, 284; Polyarthra, 284; Triarthra, 284; Conochilus, 284; Lacinularia, 284; Œcistes, 284; Limnias, 285; Stephanoceros, 286; tube-dwelling rotifers, 286; Dujardin's free-swimmers, 287; Asplanchna, 287; pitcher rotifer, 288; Salpina, 288; Pterodina, 288; cuirassiers, 288; trochal disks, 288; ciliary organs, 289; active wheel cilia, 290; gizzards, 291; mastax, 291; ciliary movement, 290; brachion mastax, 292; foscules, 293; stomach and intestines, 293; digestive apparatus, 294; nervous system, 295; Metopidia acuminata, 295; localities in which rotifers are found, 295; Annuloida, 296; true-jointed limbs of rotifers, 296; sulphuric acid formed by a mollusk, 319; insects eggs, their structure, beauty, and variety, 321; Lepidopterous, 321; care of insects in depositing eggs, 321; cockroach's eggs, 322; ants' eggs, 322; queen bees' eggs, 322; silkworms' eggs, 322; goat moth's eggs, 322; coleopterous insects' eggs, 322; burying beetles' eggs, 323; Scarabæidæ, 323; earth borer, 323; formation of eggs, 323; chemical constituents of eggs, 324; egg membrane or shell, 325; Coccus Persicæ, 326; phryganea eggs, 326; coccus eggs, 327; ova of crustaceans, 327; mottle umber moth, 327; magpie moth, 327; thorn moth eggs, 327; straw-belle moth eggs, 328; dingy shears moth eggs, 328; puss moth eggs, 328; swallow prominent eggs, 328; brimstone moth eggs, 328; lappet moth, 328; buff tiger moth, 328; brown-tail moth, 328; emerald volute moth, 329; glory of Kent moth, 329; silkworm moth, 329; silver line moth, 329; meadow brown butterfly, 329; white butterfly, 330; brown hair-streak butterfly, 330; fur-bearing foxes, 354; Canidæ family, characteristics of, 355; red fox, 355; grey fox, 355; wolves and foxes, 355; foxes' tails, 355; South American foxes, 356; silver fox, 356; prices of fox skins, 357; cross-fox fur, 358; red fox, 358; trapping foxes, 359; red trappers, 359; kitt fox, 359; Rocky Mountain fox, 360; skull of kitt fox, 361; corsac fox, 361; thievish propensities of kitt fox, 362; Arctic fox, 364; white fox, 361; blue Arctic fox 364; respiratory apparatus of

annelids, 365; reproductive apparatus of annelids, 368; classification of annelids, 369; termites, or white ants of India, 381; winged ants, 382; destroyers of white ants, 382; skipping frog, 383; mollusks, 399; new mudfish, 399; walrus, 400.
Neptune grotto, 79.
Nerve terminations of annelids, 368.
Nervous system of rotifers, 295.
Nervous system of annelids, 367.
New crater Linné, 36.
New islands in Kaimene group, 143.
New planets, 320.
Newton forgeries, 239, 400.
Newton, Sir Isaac, 350.
Newtonian theory of light, 139
New Zealand mudfish, 399.
Notes on star-streams, 1.
Notodromas, 118.
Notommata aurita, 288.
Novel action of light, 308.
November shooting stars, 190.
Nutrient fluid, 92.

Oak and beech ferns, 24.
Occultations, 60, 104, 223, 280, 381, 445.
Œcistes, 284.
Old red sandstone cliffs of Forfarshire, 27.
Old woman of spring, Indian bird, 242.
Oleaginous matter extracted by means of application of sulphuret of carbon, 152.
Optical purposes, a new glass, 77.
Organic philosophy, 387.
Origin of Cheddar cliffs, 30.
Orioles, 245.
Ornaments, ancient, 310.
Ostracoda, synopsis of the recent British, 110.
Otter, 202.
Outline lunar map, 155.
Ova of crustaceans, 327.
Ovoviviparous generation, 282.
Owls, 245.
Oxidation, how affected, 90.
Ozone test, 399.

Pagellus centrodontus, 249, 252.
Paracypris, 118.
Paradoxostoma, 126.
Parallax of the sun, 480.
Para pottery tree, 49.
Paris Exhibition, notes of, 425.
Parrots and trogons, 246.
Pascal and Newton, 180.
Peculiar venation, 398.
Perca fluviatilis, 249.
Perch scales, 249.
Perivisceral and circulatory system of annelids, 272.
Permian conglomerate, 30.
Phallus truncatus, 21.
Philodines, 284.
Philomedes, 127.
Philosophical instruments at Paris Exhibition, 425.
Phosphorescent compounds, 140.
Phosphorus, substitute for, 474.
Photographic mariners' compass, 155.
Photographs of eminent medical men of all countries, 386, 477.
Photography, new application, 317.
Photometer, 393.
Phryganea eggs, 326.
Physical characteristics of the different continents, 64
Physical geography as a popular study, 61.
Pigs of lead of Roman manufacture, 342.
Pitcher rotifer, 288.
Plane of marine denudation, 30.
Planets, new, 320.
Plants, irritability of, 146.
Plating and gilding improvements, 75.
Pleistocene mammals of Great Britain, 201.
Pliocene animal, 202.
Podaxon carcinomalis, 21.
Pogonorynche, 243.
Poisonous action of carbonic acid gas, 89.
Poisonous fish, 240.
Polariscope object, 240.
Polycopidæ, 116, 129.
Polyarthra, 284.
Pontocypris, 118.
Pottery in Celtic grave-mounds, 260, 348.
Pottery tree of Para, 49.
Pre-historic mammalia, 403.
Preservative compound, 316.
Preservation of liquors containing alcohol, 153.
Pretty experiment with water, 160.
Printing on glass, 391.
Prismatic colours exhibited by phosphorus, 138. [478.
Proceedings of learned societies, 395,
Process of production of rain, 333.
Progress of invention, 74, 150, 237, 313, 391, 473.
Pseudocythere, 125.
Psilopogon, 243.
Pterodina rotifer, 288.
Ptolemaic theory, 318.
Puff-birds, 245.
Puss-moth, 328.

Quatrefages, criticism of, 266.
Queen bee's eggs, 322.

Radiant point, the, 192.
Railway safety switch, 314.
Rain, 321.
Rainbow phosphorescence, 137.
Rainfall, amount of, diminishes as rain-guage rises above the level of the ground, 340.
Rain falling from a clear sky, 341.
Rain-producing powers of wind, 336.
Rampart-works of Gruithuisen, 216.
Red fox, 355.
Regions of the body and appendages, 267.
Reindeer, 202.
Reliquiæ Aquitanicæ, 386.
Remains of man and animals found in Bedford, 201.
Remarks of Elie de Beaumont, 41.
Remodelling the coinage under Sir Isaac Newton, 351.
Renovation of polished surface of glass, 151.
Reproductive apparatus af annelids, 366.
Reptiles scales, 246.
Resonance, 47.
Respighi, estimation of crater Linné, 38.
Respiratory apparatus of annelids, 365.
Restennet priory, 27.
Revolutions of Jupiter's satellites, 145.
Rhæticus, 216.
Rhododendrons and magnolias of the Himalayas, 132.
Rhombus hirtus, 250.
River salmon, 107.
Roman antiquities, 311.
Roman city of Uriconium, 149.
Roman lead mining work on Mendip Hills, 234.
Roman pottery, 348.
Roman pottery at Thruxton, 149.
Roman road, 311.
Roman roads in Derbyshire, 342.
Roman Salopian ware, 350.
Roman station of Vindomis, 310.
Roman town in France, 235.
Ross's new four-inch objective, 398.
Rotifers, characteristics of, 281.
Royal Geographical Society, 396.
Royal Microscopical Society, 398, 478.

Sabre-toothed animal, 202.
Sacrificing human beings, 265.
Safety-valve improvement, 77.
Salmon, food of, 104.
Salmo trutta, 253.
Salpina, a rotifer, 283.
Salisbury mammalia, 201.
Santorin, eruptions at, 142.
Satellites, Jupiter's, 222.
Satellites, Jupiter without, 144.
Saxon glass beads, 312.
Scad, 250.
Scales of fishes, their structure and manner of growth, 246.
Scales of reptiles, 246.
Scarabocidæ, 323.
Scientific meetings, 237.
Sciœnae scales, 249.
Sclerochilus, 126.
Scomber esiox, 250.
Screes at Cheddar, 32.
Sea bream, 249.
Sea marks in Cheddar ravine, 36.
Section of galactic nebula, 4.
Selenites, 217.
Sensitive naked flames, 48.
Sepulchral deposits of Roman period, 236.
Sepulchral interments, 236.
Sepulchral urns, 185, 261, 344.
Serrannus cabrilla, 250.
Shadows in terrestrial sunshine, 275.
Silex in bark, 50.
Silkworms' eggs, 322.
Silkworm moth, 329.
Silver armillae, 345.
Singing and sensitive flames, 48.
Sinus Æstuum, 374.
Skeletons, 258.
Skeletons discovered in Derbyshire barrows, 184.
Skeletons found in Yorkshire, 310.
Slate quarries, 29.
Snow flakes, 332.
Solea vulgaris, 249.
Sole scales, 249.
Sound, curiosities of, 42.
Sound, waves, 43.
Sounds we cannot hear, 45.
South American foxes, 356.
Sponges, 161.
Spicules, 164.
St. Abb's head, 26.
Stag, 202.
Standards of weights, measures, and coinage, 297.
Starch manufacture, 314.
Stars, colours of, 315; new, 479
Star showers, 320.
Star streams, 1.
Steam applied to railway breaks, 316.
Steam-boiler incrustations, 473.
Steel, improvement in the manufacture of, 74.
Stephanoceros, 286.
Stippling of the field of light, 12.
Stirling Castle, 26.
Stomachs and intestines of rotifers, 293.
Stone avalanches of the Alps, 332.
Stone cists in Derbyshire, 186.
Stone implements, 256.
Stones of Stenness, 235.

Storm on Nevada de Toluca, 134.
Strait of Cheddar, 31.
Stratigraphical structure of Cheddar cliffs, 34.
Straw-belle moth, 328.
Stream formations, 8.
Streams and cascades of Glen Clova, 23.
Streams of light in the milky way, 12.
Structure and manner of growth of the scales of fishes, 246.
Structure of insects' eggs, 321.
Structure of the annelids, with a criticism on Quatrefages, 266, 365.
Study of costume, 167.
Substitution of an electric current for a fulminate with fire-arms, 237.
Sugar birds, 245.
Sulphuric acid formed by a mollusk, 319.
Superheated steam, improved application of, 150.
Supposition of life in the moon negatived, 55.
Swallow prominent, 328.
Swallows, 245.
Swifts, 245.
Swimming rotifers, 284.
Symon's Monthly Meteorological Magazine, 157.
Synopsis of the recent British Ostracoda, 110.
Systolides, rotifers, 284.

TEETH of mammalia, 202.
Teguments and muscular apparatus of annelids, 269.
Terebella, 272.
Termites, or white ants in India, 381.
Terrestrial climates, 63.
Test in cases of suspected poisoning, 90.
Tetricus, coins of, 313.
The 92nd planet, 159.
Theories of Copernicus and Ptolemy, 317.
Theodore II., 229.
Thickness of meteoric stream, 198.
Thorn moth, 327.
Thrushes, 245.
Tinamous, 245.
Toucans, 245.
Trachyphoni barbet, 243.
Trachyphonus margaritatus, 244.
Trade and currency of Japan, 14.
Trade winds, 339.
Transfer of the custody of standards, 297.
Transformation in coinage, 353.
Transits of Jupiter's satellites, 222, 280, 381, 444.
Transmission of musical sounds, 46.
Treatise on punctuation and on other matters relating to correct writing and printing, 79.
Triarthra, 284.
Triesnecker, region of, 102.
Trigla cuculus, 252.
Trigla piper, 250.
Tubulated syphon, 391.
Tumulus at Thruxton, 149.
Tycoon councils, 14.
Tyndall's Lectures on Sound, 42.

UNDULATING railways, 394.
Urns, 202.
Utricles, 207.
Utricularia, 207.
Utilization of woollen and other rags, 237.

VALLEY of the Somme, 395.
Vapour, causes of the condensation of, 334.
Variety of conditions and influences being essential to progress of civilization, 65.
Vegetation and electricity, 399.
Velocity of sound, 45.
Venus, day view of, 399.
Venus' flower-basket, 161.
Verification of sextants, 158.
Vesuvius, eruption of, 480.
Via Lactea, 4.
Vibrations of columns of sounds, 46.
Visit to Glen Clova, 22.
Vitrified forts, Forfar, 28.
Volcanic action, formation of, 143.
Volcanic action in the Azores, 79.
Volvaria sub-genus of Agaricus, 18.
Voracity of the salmon, 106.

WALRUS at Zoological Gardens, 400.
Water marks in Cheddar caves, 33.
Warden of the Mint, 351.
Warden of the Standards, 298.
Wave-movements of sound, 43.
Weight of Jupiter and size, 145.
Weights Standard, 297.
White ants of India, 381.
White ant destroyers, 382.
White butterfly, 330.
Wigmore Abbey, 150.
Wild boar, 202.
Wind cliff, Cheddar, 31.
Winds, differences in the, 335.
Winged ants, 382.
Wolf, 202.
Wolf on Linné, 40.
Wright on the Milky Way, 3.

XESTOLEBERIS, 123.

YORKSHIRE barrows, 310.

ZONE of Erastosthenes, 275.
Zygodactyle birds, 241.

ILLUSTRATIONS.

ILLUSTRATIONS IN COLOURS.

	PAGE
Milky Way, Northern and Southern Portions	1
Mars in Jan. and Feb., 1867	81
Euplectella Speciosa	161
Blue Cheeked Barbet	241
Insects' Eggs	321
Microscopic Crustacea	416
Fresh-water Planariæ	445

TINTED PLATES.

Pottery Tree of Para	49
Anatomy of Cypridæ and Cytheridæ	121
Earth viewed from the Radiant Point of November Meteors	192
Flint Implements from Derbyshire	256
Asplanchna Brightwellii, illustrating the structure of Rotifers	288
Fac-simile of Autograph of Sir Isaac Newton	352

ENGRAVINGS ON WOOD.

Diagrams of Star Streams	4, 6
Fungi of India	18
Section of Cheddar Ravine	35
Lunar Clefts	58, 101
Network of Skeleton of Euplectella speciosa	163
Organic Juncture of Fibre	164
Furbelow of Euplectella	165
Skeletons in Derbyshire	182
Grave Mounds and Urns	183—188
Blood Discs	199
Lunar Map	218
Flint Implements	254, 255, 256
Barrow on Middleton Moor	257
Jet Ornaments in Derbyshire Barrows	257
Jet Studs	258
Bone Implements	258
Celt	259
Cinerary Urns	262, 263
Food Vessels	264
Drinking Cups	265
Incense Cups	265
Mastax of Rotifers	291
Vascular System of Notommata	294
Ornaments, Romano-British	345
Iron Knives	346
Roman Beads	348
Cinerary Urns	347, 348
Anglo-Saxon Grave	460
Anglo-Saxon Remains	463—471

HARRILD, PRINTER, LONDON.

THE

INTELLECTUAL OBSERVER

REVIEW OF NATURAL HISTORY

MICROSCOPIC RESEARCH

AND

RECREATIVE SCIENCE

VOLUME XII.

ILLUSTRATED WITH PLATES IN COLOURS AND TINTS, AND NUMEROUS ENGRAVINGS ON WOOD

STATE
UNIVERSITY

LONDON
GROOMBRIDGE AND SONS
PATERNOSTER ROW.
MDCCCLXVIII.

491

Q
1
593
v.12

OHIO STATE
UNIVERSITY

WARREN, PRINTER, LONDON.

CONTENTS.

	PAGE
Notes on Star Streams. By Richard A. Proctor, B.A., F.R.A.S. *With a Coloured Plate*	1
Japan and its Currency. By Joseph Newton, H.M. Mint	13
Fungi on the Plains of India. By Rev. M. T. Berkeley, M.A., F.L.S., *Illustrated*	18
A Visit to Glen Clova—Its Geology and Ferns. By Bernard Henry Woodward	22
Origin of the Cheddar Cliffs. By D. Mackintosh, F.G.S.	30
Doubts and Facts Concerning Linné	36
Curiosities of Sound	42
The Pottery Tree of Para. By John R. Jackson. *With a Plate*	49
Mare Vaporum and the Lunar Clefts—Occultations. By the Rev. T. W. Webb, A.M., F.R.A.S.	52
Physical Geography as a Popular Study	61
Results of Meteorological Observations made at Kew Observatory. By G. M. Whipple	68
Mars During the Late Opposition. By John Browning, F.R.A.S. *With a Coloured Plate*	81
The Functions of the Blood. By C. W. Heaton	86
The Lunar Clefts—Mare Vaporum—Jupiter's Satellites—Occultations. By the Rev. T. W. Webb, A.M., F.R.A.S.	95
The Food of the Salmon. By W. Houghton, M.A., F.L.S.	104
A Synopsis of the Recent British Ostracoda. By George Stewardson Brady, M.R.C.S., C.M.Z.S. *With Two Plates*	110
An April Climb in the Himalayas. By George C. Bulger	131
Electrical Countries and their Action on the Weather. By M. J. Fournet	134
Rainbow Phosphorescence	137
The Eruptions at Santorin	142
Jupiter without Satellites	144
Irritability of Plants	146
Venus' Flower Basket—Euplectella Speciosa. By Henry J. Slack, F.G.S., Hon. Sec. R.M.S. *With a Coloured Plate*	161
Dress According to Statute. By Francis W. Rowsell	167
The Grave-Mounds of Derbyshire, and their Contents. By Llewellynn Jewitt, F.S.A., Etc., Etc.	180
The November Shooting Stars. By Richard A. Proctor, B.A., F.R.A.S. *With a Plate*	190
The Largest Blood Discs Known—Singular Capture of a Canadian Reptile, Menobranchus Lateralis	199
Man and the Pleistocene Mammals of Great Britain. By W. Boyd Dawkins, M.A., F.R.S., Memb. Corresp.	201
The Air-Vesicles of Bladderworts (Utricularia). By J. B. Schnetzler	207
Gruithuisen's City in the Moon—Jupiter's Satellites—Occultations. By the Rev. T. W. Webb, A.M., F.R.A.S.	214
The Lunar Eclipse of Sept. 13. By John Browning, F.R.A.S.	223
On Colours Seen During the Lunar Eclipse of Sept. 13, with Remarks on the Preceding Communication. By Henry J. Slack, F.G.S., Sec. R.M.S.	226

182588

PAGE
The Abyssinian Expedition. By Professor D. T. Ansted 227
Barbets and their Distribution. By P. L. Sclater, M.A., Ph.D., F.R.S. *With Coloured Plate* 241
On the Structure and Manner of Growth of the Scales of Fishes. By Jonathan Couch, F.L.S., C.M.Z.S., Etc. 246
The Grave-Mounds of Derbyshire, and their Contents. By Llewellynn Jewitt, F.S.A., Etc., Etc. *With a Plate*..... 254
The Structure of the Annelids, with a Criticism on Quatrefages. By Edouard Claparede 266
The Lunar Eratosthenes and Copernicus—Jupiter's Satellites—Occultations. By the Rev. T. W. Webb, A.M., F.R.A.S. 273
Characteristics of Rotifers. By Henry J. Slack, F.G.S., Sec. R.M.S. *With a Plate* 281
Standards of Weights and Measures and Coinage. By Joseph Newton 297
Results of Meteorological Observations made at Kew Observatory. By G. M. Whipple..... 302
Novel Action of Light. By Niepce de St. Victor 308
Insects' Eggs: their Structure, Variety, and Beauty. By Jabez Hogg, F.L.S., Hon. Sec. R.M.S., Etc. *With a Coloured Plate*..... 321
Rain. By Richard A. Proctor, B.A., F.R.A.S. 331
The Grave Mounds of Derbyshire and their Contents. By Llewellynn Jewitt, F.S.A., Etc., Etc. 342
Sir Isaac Newton. *With a Fac-simile of his Writing.* By Joseph Newton, H.M. Mint 350
Fur-bearing Foxes. By John Keast Lord, F.Z.S. 354
The Structure of the Annelids, with a Criticism on Quatrefages. By Edouard Claparede. Second Part..... 365
Lunar Details—Double Stars—Clusters and Nebulæ—Transits of Satellites—Occultations. By Rev. T. W. Webb, A.M., F.R.A.S. 370
Termites or White Ants of India. By Captain R. C. Bevan, C.M.Z.S. 381
The Intellectual Observer and "The Student." Notice to our Readers 401
On the Pre-historic Mammalia found Associated with Man, in Great Britain. By W. Boyd Dawkins, M.A., F.R.S., F.G.S..... 403
Electrical Countries. By M. J. Fournet. Second Paper 411
Notes on the Crustacean Fauna of the English Lakes. By George Stewardson Brady, M.R.C.S., C.M.Z.S. *With a Plate* 416
The Philosophical Instruments in the Paris Exhibition. By C. R. Weld 425
Lunar Sketches—Transits of Jupiter's Satellites—Occultations. By the Rev. T. W. Webb, A.M., F.R.A.S. 435
Our Fresh-water Planariæ. By W. Houghton, M.A., F.L.S. *With a Plate* 445
The Grave-Mounds of Derbyshire, and their Contents. By Llewellynn Jewitt, F.S.A., Etc. 459
Literary Notices..... 78, 155, 317, 384, 476
Archæologia..... 148, 233, 310
Progress of Invention 74, 150, 237, 313, 391, 473
Proceedings of Learned Societies 395, 478
Scientific Meetings 237
Notes and Memoranda 79, 158, 239, 319, 398, 479